



**County of Los Angeles
DEPARTMENT OF CHILDREN AND FAMILY SERVICES**

425 Shatto Place, Los Angeles, California 90020
(213) 351-5602

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Chief Deputy Director

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REVISED

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BOARD OF SUPERVISORS
COUNTY OF LOS ANGELES

November 19, 2013

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

17 November 19, 2013

Sachi A. Hamai
SACHI A. HAMAI
EXECUTIVE OFFICER

Dear Supervisors:

**REQUEST TO APPROVE A SOLE SOURCE ACQUISITION WITH SAS INC., TO PROVIDE
TECHNICAL SERVICES FOR AN ADVANCED ANALYTICS DATA MINING PROJECT
(ALL SUPERVISORIAL DISTRICTS) (3 VOTES)**

**CIO RECOMMENDATION: APPROVE (X) APPROVE WITH MODIFICATION ()
DISAPPROVE ()**

SUBJECT:

The Department of Children and Family Services (DCFS) is requesting your Board's approval to proceed with a sole source acquisition of technical services from SAS Inc., for an Advanced Analytics Data Mining project to estimate children at risk and to improve child welfare operations within the department.

IT IS RECOMMENDED THAT YOUR BOARD:

Authorize the DCFS Director or his designee to sponsor and proceed with a sole source acquisition of technical services from SAS, Inc., for an Advanced Analytics Data Mining Project to estimate children at risk at a total cost of \$99,000.

PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION

The goal of this project is to provide a proof of concept to apply modern data integration and advanced analytic methods to transform data currently collected by DCFS to a risk score characterizing the probability of serious injury and death to children in cases under review. DCFS has been in discussions with SAS, Inc. about applying their data mining and analytical capabilities to build upon Los Angeles County's investment in the Enterprise Linkages Project (ELP) to create a tool for earlier intervention by measuring, monitoring and analyzing risk data associated with child abuse factors.

"To Enrich Lives Through Effective and Caring Service"

SAS, Inc. is an existing partner with the County with the ELP and possesses extensive experience with associated data elements of multiple County departments, including DCFS, Health Services and Mental Health. SAS has demonstrated that, given access to the relevant data, SAS technologies can uncover connections between seemingly disparate individuals and events and use that information to provide reliable, valid measures of risk. The associated software and algorithms to be examined for this project are proprietary to SAS, Inc., thereby creating the sole source acquisition.

DCFS envisions compiling de-identified factors on a sufficient number of previous cases in such a manner as to quantify and identify with some reliability the common factors that merit closer attention. Instead of a single, simple measure or collection of independent indicators at a moment in time, the goal of the project is to apply modern data mining tools and methods to currently-collected data to identify the possibility of serious injury and/or death to children under open DCFS supervision.

The process culminated in a proposal for a risk assessment model project, which improves on the Structured Decision Making (SDM) tools in several dimensions:

- 1) Risk scores would be determined by a model incorporating live County data feeds, not hand-entered values, assuring the most up-to-date and relevant information, and eliminating the potential for overrides.
- 2) Risk scores would be determined through more advanced analytic methods that account for potential interactions between underlying risk factors. The presence of one factor would modify the importance of another. This is a step beyond SDM's basic additive approach, which could mischaracterize child risk.
- 3) Model sensitivity (detecting risk) and model specificity (minimizing false positives) would be optimized through the data-driven approach that analyzes the association between historic data and case outcomes, as opposed to an arbitrary reliance on a moment-in-time assessment.
- 4) A robust data framework would emerge for enhanced future analytic opportunities, such as measuring the impact and quality of previous services and interventions.

The proposed project would involve DCFS providing SAS, Inc. with three years of de-identified historical data from the existing data structures. SAS, Inc., would link data across the systems and apply its analytic data mining capabilities to identify when cases merit closer attention. Since the outcomes of the selected cases are known, the project will test the reliability of a data-driven approach to compiling a clearer picture of children and their environments. The four primary data sources for use in the project include:

- 1) DCFS Datamart;
- 2) Structured Decision-Making (SDM);
- 3) Enterprise Linkages Project (ELP); and
- 4) Critical Incident/Child Fatality Tracking (CIFT).

Based on a similar concept used in the Department of Public Social Services to identify child care fraud, the assessment tool could be a valuable resource for DCFS. The exploratory analysis and proof of concept will serve as the foundation for a fully-functioning, operational production solution. If successful, DCFS will return to the Board for consideration and

approval of an implementation plan and contract to move forward with the production phase of the project.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The recommended action will provide case management proficiency and organization efficiency in delivering services to the public, and is therefore consistent with the principles of the Countywide Strategic Plan Goal No. 1, Operational Effectiveness and Goal No. 3, Integrated Service Delivery.

FISCAL IMPACT/FINANCING

For the purpose of the project, SAS, Inc. will provide all the necessary software, services and hosting support to implement the project at no cost to the County. However, SAS, Inc. proposes consultant service fees, which will include the services of a Managing Consultant, an Expert Consultant, and a Senior Systems Consultant for a total of \$99,000. Sufficient funding is included in the Department's FY 2013-14 Budget.

FACTS AND PROVISIONS/LEGAL REQUIREMENTS

Only data elements and risk factors identified by DCFS will be used. SAS, Inc. and DCFS agreed that only de-identified data would pass from DCFS to SAS, Inc., in order to safeguard confidentiality. SAS, Inc. would draw data from four sources. One of these data sources is DCFS Datamart. DCFS managers will notify the California Department of Social Services (CDSS) of the intended use and obtain CDSS' written approval confirming that it is a use consistent with the role of CWS/CMS and federal regulations.

The ELP pulls data from many different County department databases, and links them via a unique identifier. The data that is extracted is normally de-identified. The Office of the County Counsel will be notified to review the impacts of the project for each affected department.

Board approval of the proposed project is required. On June 21, 2011, on a motion by Supervisor Yaroslavsky, the Board of Supervisors delegated administrative oversight authority to the Chief Executive Office for the purpose of coordinating the following data-sharing initiatives that include DCFS and Probation: 1) Enterprise Master Person Index; 2) Enterprise Linkages Project; 3) Homeless Prevention Initiative Cost Avoidance Studies; 4) Linkages; 5) Outcomes of Youth Exiting Dependent Care; 6) Skid Row Collaborative Cost Avoidance Study; and 7) Residential Placement Protocols. The Board further instructed the Chief Executive Office to return to the Board for approval of any future, additional or amended contracts that relate to these ongoing data-sharing initiatives, as well as requests for delegation of administrative oversight for any new data-sharing initiatives.

The County's Chief Information Officer reviewed the Sole Source Acquisition and recommends approval (CIO Analysis - Attachment A).

CONTRACTING PROCESS

The acquisition of the requested technical services falls within the statutory authority of the County's Purchasing Agent and will be requisitioned through, and accomplished by the Purchasing Agent in accordance with the County's purchasing policies and procedures.

IMPACT ON CURRENT SERVICES

The goal of this project is to apply modern data mining tools and methods to currently-collected data to identify the possibility of serious injury and/or death to children under open DCFS supervision. The project will create a tool to further enhance assessment and intervention by measuring, monitoring and analyzing key risk factors associated with child abuse, which will allow DCFS to continue to ensure the well-being of children and families in our care.

CONCLUSION

Upon approval by your Board, it is requested that the Executive Office/Clerk of the Board send an adopted copy of this Board Letter to:

1. Department of Children and Family Services
Business Information Division
Attention: Cecilia Custodio, Division Chief
12440 E. Imperial Highway
Norwalk, CA 90650
2. Internal Services Department
Purchasing and Contract Services
Attention: Gerald R. Plummer, Division Manager
1100 N. Eastern Avenue
Los Angeles, CA 90063
3. Chief Information Office
Attention: Richard Sanchez, Chief Information Officer
Los Angeles World Trade Center
350 S. Figueroa Street, Suite 188
Los Angeles, CA 90071

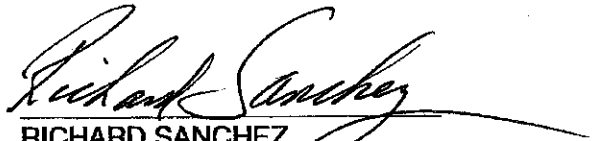
The Honorable Board of Supervisors
November 19, 2013
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Respectfully submitted:



PHILIP L. BROWNING
Director

Reviewed by:



RICHARD SANCHEZ
Chief Information Officer

PLB:CC:PD:nc

Enclosures

c: Chief Executive Officer
Chief Information Officer
Executive Officer, Board of Supervisors
Director, Internal Services Department
County Counsel



RICHARD SANCHEZ
CHIEF INFORMATION OFFICER

REVISED
Office of the CIO
CIO Analysis

NUMBER:

CA 13-18

DATE:

10/31/2013

SUBJECT:

**REQUEST TO APPROVE A SOLE SOURCE ACQUISITION WITH SAS, INC.
TO PROVIDE TECHNICAL SERVICES FOR AN ADVANCED ANALYTICS
DATA MINING PROJECT**

RECOMMENDATION:

☒ Approve☐ Approve with Modification☐ Disapprove

CONTRACT TYPE:

☐ New Contract☒ Sole Source☐ Amendment to Contract #: Enter contract #.☐ Other: Describe contract type.

CONTRACT COMPONENTS:

☐ Software☐ Hardware☐ Telecommunications☒ Professional Services

SUMMARY:

Department Executive Sponsor: Philip L. Browning, Director,
Department of Children and Family Services

Description: Department of Children and Family Services (DCFS) is requesting Board approval to contract with SAS, Inc. to provide consultants to project the Advanced Analytics Data Mining Project to be used to estimate children at risk and to improve child welfare operations within the department.

Contract Amount: \$99,000

Funding Source: BIS Fiscal Year 2013-14 Budget

☒ Legislative or Regulatory Mandate☐ Subvened/Grant Funded: Enter %

**Strategic and
Business Analysis**

PROJECT GOALS AND OBJECTIVES:

The proposed project involves DCFS to provide SAS, Inc. with three years of de-identified historical data from the existing data structures. SAS, Inc., will link data across the systems and apply its analytic data mining capabilities to identify when certain cases should have merited closer attention.

BUSINESS DRIVERS:

The project will test the reliability of a data-drive approach to compile a clear case picture of each child and their environment.

PROJECT ORGANIZATION:

A project organization composed of CEO, SAS, Inc. and Child Welfare Operations within DCFS, has been documented. The Project Manager is Cecilia Custodio. The project team is made up of representatives from BIS.

	<p>PERFORMANCE METRICS:</p> <p>The four primary data sources for use in the project would be: 1) Child Welfare Services/Case Management System (CWS/CMS); 2) Structured Decision-Making (SDM); 3) Enterprise Linkages Project (ELP); and 4) Critical Incident/Child Fatality Tracking (CIFT).</p> <hr/> <p>STRATEGIC AND BUSINESS ALIGNMENT:</p> <p>The project is in alignment with the County's Strategic plan Goal 1, Operational Effectiveness, Goal 2, Children, Family, & Adult Well-being, Goal 3, Integrated Service Delivery.</p> <hr/> <p>PROJECT APPROACH:</p> <p>The four primary data sources for use in the project would be: 1) Child Welfare Services/Case Management System (CWS/CMS); 2) Structured Decision-Making (SDM); 3) Enterprise Linkages Project (ELP); and 4) Critical Incident/Child Fatality Tracking (CIFT). Based on a concept used in Department of Public Social Services (DPSS) child care fraud data mining, this could be a valuable tool for DCFS. The exploratory analysis and prototyping done in this project will serve as the foundation for a fully-functioning, operational production solution.</p> <hr/> <p>ALTERNATIVES ANALYZED:</p> <p>As a result of the commitment reported to the Board on March 6, 2012 (i.e., report titled "Progress Report on the Development of More Effective Child Safety and Risk Assessment Tools Inclusive of Structured Decision Making"), in April 2012 DCFS began exploring whether a system existed that technologically imports data elements from existing databases and requires little manual input from workers, to indicate the probability of future risk to children. Unfortunately, DCFS found none.</p>
Technical Analysis	<p>ANALYSIS OF PROPOSED IT SOLUTION:</p> <p>The proposed IT Project will be monitored by the County's Chief Data Officer, for the purpose of continued County Strategic alignment of building an enabling infrastructure (shared service) for enterprise information management, including Master Data Management; Enterprise Messaging and Service Bus; Data Analytics; ELP and SDM. If project produces successful results, DCFS will return to the Board for consideration and approval of an implementation plan and contract to move forward with the production phase of the project.</p>

Financial Analysis	<p>BUDGET:</p> <p>Contract costs</p> <p>One-time costs:</p> <p>Services \$ 99,000 *1 year</p> <p>Ongoing annual costs:</p> <p>Sub-total Contract Costs: \$ N/A</p> <p>Other County costs:</p> <p>One-time costs:</p> <p>Sub-total one-time County costs: \$ N/A</p> <p>Ongoing annual costs:</p> <p>Sub-total ongoing County costs: \$ N/A</p> <p>Total one-time costs: \$ 99,000</p> <p>Total ongoing annual costs: \$ N/A</p> <p>* SAS, Inc. will provide all the necessary software, services, and hosting support to implement the project and set the stage for a production implementation of the Child Welfare and Risk Prevention Solution at no cost to the County. However, SAS, Inc. proposes consultant service fees for the entire project, which include the services of a Managing Consultant at \$8,000, Expert Consultant at \$80,000, and Senior Systems Consultant at \$11,000, for a total of \$99,000. Project for 1 year.</p>
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Risk Analysis**RISK MITIGATION:****Risk Mitigation Measures:****Issues of Liability Associated with Equality Protection Concerns**

The Contract's Statement-of-Work specifies roles and responsibilities of the contractor and only data elements and risk factors identified by DCFS will be used. No integration or analysis of data related to race, nationality, religion, and other classifications will be part of the project.

Issues of Confidentiality

SAS, Inc. and DCFS agreed that only de-identified data would pass from DCFS to SAS, Inc. Accordingly, issues of juvenile case confidentiality are not a major concern for the project phase because case-specific outcomes will not be identified and provided to DCFS. However, if the project moved to the production phase, there may be confidentiality issues relating to what information from the ELP is provided on a case-by-case basis when the risk results are provided to DCFS along with the underlying information that yielded the particular score.

SAS and the County fully understand these issues and have jointly addressed them successfully in conjunction with the County CEO and DPSS for the ELP and would anticipate applying similar techniques to this project.

Issues of Data Systems Law

SAS, Inc. would draw data from four sources. One of these data sources is CWS/CMS. DCFS managers will notify the California Department of Social Services (CDSS) of the intended to use and obtain CDSS' written approval confirming the use is consistent with the role of CWS/CMS and Federal regulations.

The Enterprise Linkages Project pulls data from many different County Department databases, and links them via a unique identifier. The data that is extracted is normally de-identified.

Issues Related to the County Governance Structure.

Board approval of the proposed project is required. On June 21, 2011, on a Motion by Supervisor Yaroslavsky, the Board delegated authority to the Chief Executive Office (CEO) for the purpose of coordinating the following data-sharing initiatives that include DCFS and Probation: 1) Enterprise Master Person Index; 2) Enterprise Linkages Project; 3) Homeless Prevention Initiative Cost Avoidance Studies; 4) Linkages; 5) Outcomes of Youth Exiting Dependent Care; 6) Skid Row Collaborative Cost Avoidance Study; and 7) Residential

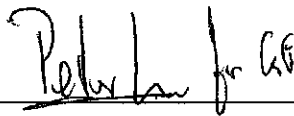
Placement Protocols. The Board further instructed the CEO to return to the Board for approval of any future amended contracts that relate to these ongoing data-sharing initiatives, as well as requests for delegated authority for any new data-sharing initiatives.

The acquisition of the requested technical services falls within the statutory authority of the County's Purchasing Agent. Any such purchases will be requisitioned through, and accomplished by the Purchasing Agent in accordance with the County's purchasing policies and procedures.

1. The Chief Information Security Officer (CISO) has reviewed the Acquisition, and at this time did not identify any IT security or privacy related issues.

CIO Approval

PREPARED BY:

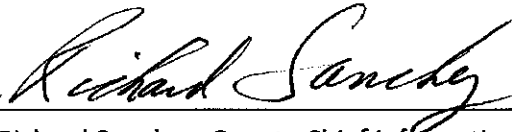


Gene A. Franklin Sr., Sr. Associate CIO

11/12/13

Date

APPROVED:



Richard Sanchez, County Chief Information Officer

11-12-13

Date

Please contact the Office of the CIO (213.253.5600 or info@cio.lacounty.gov) for questions concerning this CIO Analysis. This document is also available online at <http://ciointranet.lacounty.gov/>